ABSTRACT

A subject for the invention is to provide a method of refractive index regulation by which the refractive index of an optical polymer molding can be efficiently changed without necessitating a complicated step, such as the step of oxidizing beforehand, and which when used for producing an optical device, imparts excellent transparency thereto. Another subject is to provide a photochemically refractive-index-changing polymer or photochemically refractive-index-changing polymer composition for use in the method.

The invention relates to a method of refractive index regulation characterized in that either a photochemically refractive-index-changing polymer which is a polymer of one or more monomers comprising an acrylic vinyl monomer represented by $CH_2=C(R^1)C(=O)O-R^2=CH_2$ (wherein R^1 is hydrogen or methyl and R^2 is a saturated or unsaturated hydrocarbon group having 1-20 carbon atoms, provided that the monomer may have one or more heteroatoms and halogen atoms in the molecule) as an essential ingredient and which has radial-polymerizable side-chain vinyl groups remaining in the molecule or a composition containing this polymer is irradiated with a radiation, e.g., ultraviolet, to react the vinyl groups and thereby cause a density change so as to result in a refractive-index increase (Δn) through the irradiation of 0.005 or more.